



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,771	04/12/2006	Cornelis Johannes Adrianus Schetterts	NL03 1227 US	3541
65913	7550	09/05/2008		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER BEHM, HARRY RAYMOND	
			ART UNIT 2838	PAPER NUMBER
			NOTIFICATION DATE 09/05/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

**Office Action Summary****Application No.**

10/575,771

**Applicant(s)**SCHETTERS, CORNELIS  
JOHANNES ADRIANUS**Examiner**

HARRY BEHM

**Art Unit**

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to the amended claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kayser (US 6,295,212) in view of Kayser.

With respect to Claim 1, Kayser discloses a power converter, comprising: an input circuit having a rectifier (Fig. 1 D1) that is a single diode rectifier and a filter that includes a non-electrolytic capacitor (Fig. 1 C1) connected in series with the rectifier, the filter providing a DC voltage output (Fig. 1 voltage C1); and

a switched mode power supply arranged to receive the DC voltage output from the filter, wherein the switched mode power supply is comprised of discrete components. Kayser does not disclose wherein the switched mode power supply is an integrated circuit in Figure 1. Kayser discloses wherein the switched mode power supply is an integrated circuit (Fig. 2 20) in an alternative embodiment. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the

switched mode power supply as an integrated circuit. The reason for doing so is to reduce the size and cost of the supply.

With respect to Claim 2, Kayser in view of Kayser disclose a power converter as set forth above. Kayser does not detail the capacitance of the non-electrolytic capacitor. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a capacitor which has a capacitance of about 100 nF. The reason for doing so is optimization of a value through routine experimentation is generally not patentable.

#### See MPEP 2144.05 II. OPTIMIZATION OF RANGES

##### A. Optimization Within Prior Art Conditions or Through Routine Experimentation

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.); see also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known

provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”); In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

Claims 3-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kayser (US 6,295,212) in view of Kayser and further in view of Balakrishnan (US 6,813,168).

With respect to Claim 3, Kayser in view of Kayser disclose a power converter as set forth above, wherein the filter further includes an inrush resistor (Fig. 1 R1). Kayser in view of Kayser do not disclose wherein the filter includes a coil and an electrolytic capacitor. Balakrishnan discloses a half wave rectifier (Fig. 1 100) with a well known filter topology known as a pi filter (Fig. 1 C103,R104,C104). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a pi filter by adding a coil and electrolytic capacitor to the non-electrolytic capacitor. The reason for doing so is to filter the output of the half wave rectifier.

With respect to Claim 4, Kayser in view of Kayser and Balakrishnan disclose a power converter as set forth above. Kayser in view of Kayser and Balakrishnan do not disclose the capacitance of the electrolytic capacitor. It would have been obvious to one of ordinary skill in the art at the time of the invention to set the capacitance to about 10  $\mu$ F. The reason for doing so is, as stated in Claim 2 above, optimization of a value through routine experimentation is generally not patentable.

See MPEP 2144.05 II. OPTIMIZATION OF RANGES

A. Optimization Within Prior Art Conditions or Through Routine Experimentation

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.); see also Peterson, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); In re Hoeschele, 406 F.2d 1403, 160 USPQ

809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

With respect to Claim 5, Kayser in view of Kayser and Balakrishnan disclose a power converter as set forth above, wherein the coil and the non-electrolytic capacitor are arranged to filter distortions caused by the switched mode power supply IC (Fig. 2 20).

With respect to Claim 6, Kayser in view of Kayser and Balakrishnan disclose a power converter as set forth above, wherein the coil and the inrush resistor are arranged to reduce the inrush current. Kayser in view of Kayser and Balakrishnan do not disclose wherein the inrush resistor is across from the coil. It would have been obvious to one of ordinary skill in the art at the time of the invention to place the inrush resistor and coil parallel between the non-electrolytic capacitor and the electrolytic capacitor. The reason for doing so is the limitation of the "coil and inrush resistor in parallel," which is really an impedance insertion used to reduce the inrush current to the electrolytic capacitor presents no novel or unexpected result over the inrush current

reduction used in the references. Use of such a means of electrical connection in lieu of those used in the references solves no stated problem and would be an obvious matter of design choice within the skill of the art. In re Launder, 42 CCPA 886, 222 F.2d 371, 105 USPQ 446 (1955); Flour City Architectural Metals v. Alpana Aluminum Products, Inc., 454 F. 2d 98, 172 USPQ 341 (8th Cir. 1972); National Connector Corp. v. Malco Manufacturing Co., 392 F.2d 766. 157 USPQ 401 (8th Cir.) cert. denied, 393 U.S. 923, 159 USPQ 799 (1968).

With respect to Claim 7, Kayser in view of Kayser and Balakrishnan disclose a power converter as set forth above, wherein the DC voltage output of the filter is applied to a series connection of a primary winding (Fig. 1 Lp), the switched mode power supply IC (Fig. 2 20), and a resistor (Fig. 1 R2).

With respect to Claim 12, Kayser in view of Kayser and Balakrishnan disclose a power converter. See claims 2 and 3 for additional details.

With respect to Claim 13, Kayser in view of Kayser and Balakrishnan disclose a power converter as set forth above. See claim 4 for additional details.

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kayser (US 6,295,212) in view of Kayser, Balakrishnan (US 6,813,168) and further in view of the TEA152x family data sheet by Philips.



With respect to Claim 8, Kayser in view of Kayser and Balakrishnan disclose a power converter as set forth above and do not disclose the gain of the feedback loop. It would have been obvious to one of ordinary skill in the art at the time of the invention to power the Philips IC TEA1520P with the half wave rectifier and pi filter. The reason for doing so is the TEA1520P "is a Switched Mode Power Supply (SMPS) controller IC that operates directly from the rectified universal mains. It is implemented in the high voltage EZ-HV SOI process, combined with a low voltage BICMOS process. The device includes a high voltage power switch and a circuit for start-up directly from the rectified mains voltage" (TEA 152x family data sheet page 2).

With respect to Claim 9, Kayser in view of Kayser, Balakrishnan and the TEA 152x family data sheet disclose a power converter as set forth above wherein the high gain feedback loop includes a multiplier arranged to diminish ripple caused by the non-electrolytic capacitor.

With respect to Claim 10, Kayser in view of Kayser, Balakrishnan and the TEA 152x family data sheet disclose a power converter as set forth above wherein the multiplier is a factor 10 multiplier.

With respect to Claim 11, Kayser in view of Kayser, Balakrishnan and the TEA 152x family data sheet disclose a power converter as set forth above, wherein the

switched mode power supply IC (Fig. 2 20) includes an internal start-up circuit having a high-voltage start-up current source and without provision of any dissipative bleeder resistor [inrush resistor external to IC].

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **HARRY BEHM** whose telephone number is (571)272-8929. The examiner can normally be reached on 7:00 am - 3:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm E. Ullah can be reached on (571) 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry Behm/  
Examiner, Art Unit 2838

/Jeffrey L. Sterrett/  
Primary Examiner, Art Unit 2838